

flycatchers. (However, in some species with less extreme sexual dimorphism, the sexes take a more equal role in nesting—e.g. *T. viridis* (Moreau 1949, Skead 1967).) The convergence of *T. corvina* and *T. atrochalybea* might be a consequence of competitive release and relief from predation in similar small island environments, but this can hardly be so in *P. alecto*, which exists in very species-rich communities. Perhaps there are subtle features of their habitats which make these particular plumage patterns adaptive, while a shared phylogeny and conservatism of plumage probably contribute to the resemblance.

Acknowledgements: I am grateful to all who assisted me during my visits to Papua New Guinea and Seychelles (acknowledged in full elsewhere). I. C. J. Galbraith kindly advised me regarding the systematic position of *P. alecto*, and C. W. Benson, A. S. Cheke, C. H. Fry, D. T. Holyoak, and D. W. Snow made helpful comments on the manuscript.

References:

- Bannerman, D. A. 1936. *The Birds of West Tropical Africa*. Vol. 4. Crown Agents, London.
- Benson, C. W. 1971. Notes on *Terpsiphone* and *Coracina* spp. in the Malagasy region. *Bull. Brit. Orn. Cl.* 91: 56–64.
- Diamond, J. M. 1972. Avifauna of the Eastern Highlands of New Guinea. *Publs. Nuttall Ornithol. Club* 12. Cambridge, Mass.
- Fayon, M. 1971. The plight of the Paradise Flycatcher. *J. Seychelles Soc.* 7: 8–11.
- Fraser, W. 1972. Notes on *Terpsiphone corvina*. *Ibis* 114: 399–401.
- Gaymer, R., Blackman, R. A. A., Dawson, P. G., Penny, M. & Penny, C. M. 1969. The endemic birds of Seychelles. *Ibis* 111: 157–176.
- Gilliard, E. T. & Lecroy, M. 1966. Birds of the Middle Sepik Region. *Bull. Amer. Mus. Nat. Hist.* 132: 245–276.
- Hall, B. P. & Moreau, R. E. 1970. An Atlas of Speciation in African Passerine Birds. British Museum (Natural History): London.
- Holyoak, D. T. & Thibault, J.-C. 1977. Habitats morphologie et inter-actions-écologiques des oiseaux insectivores de Polynésie orientale. *L'Oiseau et R.F.O.* 47: 115–147.
- Keast, A. J. 1958. Variation and speciation in the Australian flycatchers (Aves: Muscicapinae). *Rec. Austr. Mus.* 24: 73–108.
- Moreau, R. E. 1949. The breeding of the Paradise Flycatcher. *Ibis* 91: 256–279.
- Morony, J. J. Jr., Bock, W. J. & Farrand, J. Jr. 1975. *Reference List of the Birds of the World*. Amer. Mus. Nat. Hist.: New York.
- Newton, E. 1867. On the land birds of the Seychelles Archipelago. *Ibis Series* 2 (3): 335–360.
- Penny, M. 1974. *The Birds of Seychelles and the Outlying Islands*. Collins: London.
- Rand, A. L. & Gilliard, E. T. 1967. *Handbook of New Guinea Birds*. London.
- Skead, C. J. 1967. A study of the Paradise Flycatcher *Terpsiphone viridis* (Muller). *Ostrich* 38: 123–132.
- Slater, P. 1975. *A Field Guide to Australian Birds*. Passerines. Scottish Academic Press: Edinburgh.
- Snow, D. W. 1950. The birds of Sao Tomé and Principe in the Gulf of Guinea. *Ibis* 92: 579–595.
- Storr, G. 1977. Birds of the Northern Territory. *Spec. Publ. West. Aust. Mus.* 7.
- Address:* School of Biological Sciences, University of Sussex, Falmer, Brighton, BN1 9QG.

A new race of *Parisoma lugens* from the highlands of Bale, Ethiopia

by C. Erard

Received 11 January 1978

In the material brought back from Ethiopia by various expeditions organised by the Laboratoire de Zoologie (Mammifères et Oiseaux), Muséum National d'Histoire Naturelle, Paris, there is a series of 15 *Parisoma lugens*. These specimens are not homogeneous, 4 of them being easily distinguishable by their dark coloration.

These 4 emanate from the mountains of Mendebo-Araenna, in the province of Bale. Three were collected at Dinsho (=Gurie, 7° 06' N, 39° 47' E), 27 and 31 March 1968, by a team consisting of J. Dorst, F. Roux and R. Chauvancy; and the fourth half-way between Adaba (7° 01' N, 39° 25' E) and Goba (7° 01' N, 39° 59' E), 25 February 1971, by a team comprising J. Prévost, G. Jarry and N. Follet. These birds differ biometrically (mm and gm) from others from central and western Ethiopia:—

	Wing	Tail	Bill (from skull)	Weight
Bale				
3 ♂♂	65.3 (64-66)	62.5 (61-64.5)	12.3 (12-12.5)	13.7 (13-14)
♀	63.5	62	12	13
Remainder				
3 ♂♂	62.0 (61-63.5)	57.2 (56.5-58)	11.7 (11.5-12)	14.7 (14-16)
8 ♀♀	62.0 (60.5-64)	58.4 (57-61)	11.9 (11.5-12.5)	15.7 (14-18)

Thus they are larger but lighter than birds of the nominate race, described from Simien. The increase in size is not surprising, for they were collected at altitudes between 3,500 and 3,700 m, the others between 1,600 and 2,100 m.

Although they must be stressed, it was not only these biometric differences which attracted attention. As already indicated, we were particularly struck by the colour of the Bale birds. It is significant that the collectors themselves were puzzled and hesitant in arriving at a species determination.

Three geographic races of *Parisoma lugens* are recognised on the basis of colour variation by White (1962: 737):—

P. l. lugens (Rüppell), of the Ethiopian plateaux.

P. l. jacksoni Sharpe (Synonym *P. l. clara* Meise), from the southeastern Sudan and Kenya south to Malawi and southeastern Zaire. Upperparts uniformly sepia-brown, whereas in the nominate race the crown is still more dark and sepia than the back.

P. l. prigoginei Schouteden, northwest of Lake Tanganyika. Upperparts more olive-brown, the crown contrasting with the back, and above all the chest much washed with grey.

For a more precise distribution of *P. lugens*, reference must be made to Hall & Moreau (1970: 201), in which however the Ethiopian specimens recorded by Erlanger (1907: 53) are not shown, and are as follows: ♀, 30.iii.1900, Gara Mulata (9° 05' N, 41° 30' E), west of Harar; ♂, 11.xii.1900, Abela (7° 01' N, 38° 31' E), near Lake Awasa; ♀, 7.ii.1901, Ireso (c. 7° N, 39° 15' E), near Dodola, Arussi-Gallaland; unsexed, 19.ii.1901, Ghinir (7° 06' N, 40° 40' E), Bale. These specimens, except that from Abela, still exist in the collection of the Forschungsinstitut Senckenberg, Frankfurt-am-Main, and we have been able to examine them.

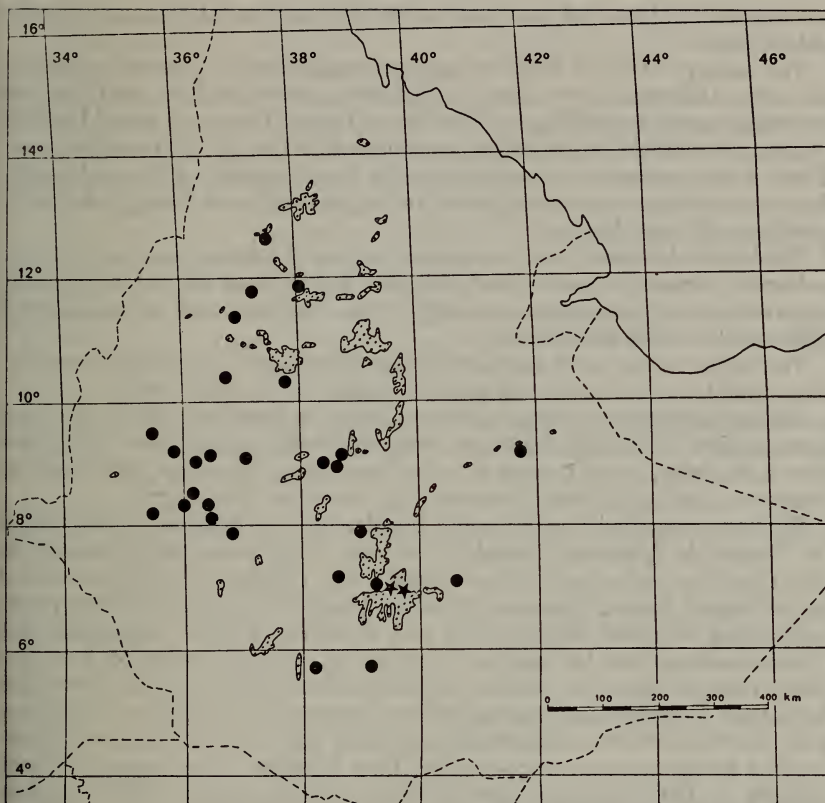


Figure 1. Ethiopian localities from which specimens of *P. lugens* have been examined. Round: *P. l. lugens*. Asterisk: *P. l. griseiventris*. Dotted areas: above 3,000 m.

Not having sufficient comparative material in Paris, we have studied the long series in the British Museum (Natural History), Tring, paying particular attention to variability in the Ethiopian populations of the nominate race, of which we have examined 40 specimens, well spread over its area of distribution (Fig. 1). It is plain that the Bale birds do not belong to the same subspecies as the others from Ethiopia, differing in a number of characters.

The upperparts of the Bale birds are very dark, blackish sepia, the crown and the mantle appearing practically concolorous. In individuals of the nominate race, the sepia crown contrasts more or less clearly, always to some extent, with the paler, less blackish, back. No *lugens* examined has the upperparts so dark and uniform.

Mackworth-Praed & Grant (1955: 174) consider the contrast between the crown and the mantle in nominate *lugens* as a character of youth, an opinion which we cannot support. As noted from a specimen collected on 27 September 1971 at Ghimbi (9° 12' N, 35° 50' E), in Wollega, and which still showed yellow gape-flanges, the immature plumage is characterised by a very pronounced rufous tone superimposed on the brown of the upperparts (including the crown), rufous also being apparent on the margins of the wing

coverts and remiges, and as a wash on the flanks, lower abdomen and under tail-coverts.

The underparts of the Bale birds are generally very grey (scarcely paler on the lower abdomen), not white washed with greyish buff on the chest and brownish on the flanks (Fig. 2). The chin and upper throat are mixed blackish brown and whitish, but the appearance is darker than in the nominate race. There is less contrast in comparison with the remainder of the underparts, due to the throat as a whole, chest and upper abdomen being indistinctly streaked with grey-brown.

The lower abdomen, inner flanks and under tail-coverts show a very clear reduction, almost absence of buff, this tone being much diluted, only barely apparent on the lowermost extremity of the abdomen and as an indistinct wash on the under tail-coverts.

The white on the outer rectrices is more greyish and, especially, less extensive, notably on the inner web and at the apex of the outer web.

All these differences from nominate *lugens* as described above are even more evident if the Bale birds are compared with *jacksoni*, also well represented in Tring, since *jacksoni* is paler than *lugens*. However, they have in common a lack of contrast between the crown and the mantle.

We have examined 2 males and 2 females of *P. l. prigoginei*, preserved in the Musée de l'Afrique Centrale, Tervuren. They show the characters as given by Schouteden (1952). On the underparts, this race is well characterised by its blackish brown chin scarcely marked with white, and its greyish chest, contrasting with the white throat and abdomen. On the upperparts the crown contrasts with the back in being darker. The outer rectrices have less white than in *lugens* or *jacksoni*, as emphasised in Dowsett & Prigogine (1974: 36). Furthermore, in *prigoginei* the upperparts, flanks, lower abdomen and under tail-coverts are more rufous in tone than in the other races, resulting in a brighter, warmer appearance. Thus *prigoginei* shows some tendency towards the Bale birds in its greyish chest, yet not so dark, and in the reduction of white on the outer rectrices.

However, as the following measurements (mm) show, *prigoginei* is even larger, with a robuster bill, than the Bale birds:—

	Wing	Tail	Bill (from skull)
2 ♂♂	68–69.5	60–63	13.5–15
2 ♀♀	68–69.5	62.5–63	14.5–15

The Bale birds are equally distinct in colour, by being uniformly very grey on the underparts, with much more matt, darker, colder tones, lacking any rusty on the upperparts, and by an extreme reduction of buff on the flanks, lower abdomen and under tail-coverts.

Thus the specimens from the highlands of Bale represent a distinct taxon which we propose to name:

***Parisoma lugens griseiventris* subsp. nov.**

Diagnosis: The darkest race. Upperparts uniformly dull blackish sepia; underparts grey, white barely apparent, with a significant reduction of buff on the lower abdomen and under tail-coverts.

Type: Adult ♂, collected at Dinsho (=Gurie), Bale, Ethiopia, 31 March 1968, by a team composed of Prof. J. Dorst, F. Roux and R. Chauvancy, collectors' no. 236; in Paris Museum, reg. no. C. G. 1977-827.

Measurements and weight of type: Wing 64, tail 61, bill 12.5 mm, weight 13 g.

Distribution: High altitudes in the mountains of Mendebo-Araenna, province of Bale, southeastern Ethiopia.

Remarks: Erlanger's 3 remaining specimens (the one from Abela has disappeared) are interesting from their geographical situation, for they are near the eastern edge of the Ethiopian distribution (Fig. 1). According to Erlanger's itinerary (*J. Orn.* 52, 1904, suppl.: general map and map 2), these localities are all situated at altitudes well below 2,500 m, in fact near to 2,000 m, even 1,500 m in the case of Ghinir. The 3 specimens belong without question to the nominate race, including the one from Ireso only c. 20 km from Adaba. The change from the pale nominate race to the dark, montane, *griseiventris* is thus sharp, possibly without any intergradation. Not only is *griseiventris* very distinct in colour (also large-sized, albeit lighter in weight), but also in ecology, more particularly in habitat.

The nominate race, according to the evidence obtained by the various expeditions of the Paris Museum, frequents open or slightly enclosed biotopes, but always wooded; light wooded savannas of a humid type, interspersed with shrubs (especially of *Acacia*); edges of degraded forest; gallery forests with *Ficus* and *Acacia* trees. In such places *Acacia* is always present, and from it the bird seems inseparable: cf. also Cheesman & Sclater (1935: 599), Benson (1946: 182-183), Urban & Brown (1971: 93).

P. l. jacksoni apparently has a similar association, and is no less strictly linked to *Acacia* growth than nominate *lugens*, judging for example from the information in Jackson (1938: 910), Benson (1950: 36), Chapin (1953: 601), Dowsett & Prigogine (1974: 36) and Benson & Benson (1977: 20, 153). Like *lugens*, *jacksoni* seems not to occur anywhere above 2,500 m. Indeed it appears to be no more than occasional above 2,000 m, in degraded forest, as with *lugens* on the Ethiopian plateaux.

P. l. prigoginei is included by Prigogine (1975: 85) in his list of subalpine forms, with an altitudinal distribution from 2,620 to 3,220 m in Itombwe, where it inhabits watercourses in bushy savanna (Prigogine 1971: 185). In that area the highest summit—Mount Mohi—reaches 3,475 m. Prigogine (pers. comm.) has not personally observed *prigoginei* in life, and has no precise notes on its habitat. However, this race is undoubtedly associated with the subalpine zone in view of the altitudes of collecting localities. Bamboos and heaths do not generally occur above 3,000 m, giving way higher to a short herbaceous growth dominated by such afro-alpines as *Helichrysum*, *Alchemilla* and *Senecio*. Thus the Itombwe race must be associated with a vegetation series only just below the afro-alpine stage.

P. l. griseiventris is the most montane race, frequenting altitudes above 3,500 m. Its habitat lies in the upper montane vegetation series, in woody moorlands dominated by *Erica*, *Euphorbia* and *Hypericum* (for a description of the environment around Dinsho, cf. Dorst & Roux 1972). In movements and vocalisations it is like a *Sylvia* warbler, as much in the top of shrubby vegetation (notably heaths) as in frutescent tufts. This ecological localisation is very different from that of *lugens* and *jacksoni*. Despite the lack of precise information from Itombwe, it would seem that the habitats of *griseiventris* and *prigoginei* may be very similar, if not identical, both different from those of the other two races, their presence not tied to that of *Acacia*.

In Zaire the forms *prigoginei* of Itombwe and *jacksoni* of Marungu are

geographically widely separated. By contrast, in Ethiopia *lugens* and *griseiventris* occur close to one another, the latter being almost surrounded by the former (Fig. 1). So the altitudinal separation between the two forms needs stressing. *P. l. griseiventris* is seemingly isolated from *lugens* by a belt of forest suitable to neither. This occupation of different, well separated, altitudinal zones, as well as the profound habitat-difference, poses the question of a possible reproductive isolation between the two forms. Only precise eco-ethological studies on the ground will permit a solution. Attention should be paid in particular to possible voice-differences.

There seem to be no differences in the nature and size of the food taken by the two Ethiopian forms. Out of 11 stomachs of *lugens* examined, 10 contained small caterpillars 10 to 20 mm long, 3 the chitinous debris of small insects, one of spiders, and another of aphids. The 4 stomachs of *griseiventris* also contained small caterpillars (3), small insects (2), and one showed some vegetable debris. Not much is known about the diet of *jacksoni* except that Jackson (1938: 910) found seeds and small berries in the stomachs of 2 males, and Chapin (1953: 601) states that the food consists of insects, occasionally varied by berries.

Acknowledgements: Grateful thanks are due to Dr. D. W. Snow, I. C. J. Galbraith and other staff in the bird room at Tring, for their kind welcome and for working facilities; to Dr. J. Steinbacher and Dr. D. S. Peters, of Frankfurt-am-Main, and Dr. M. Louette, of Tervuren, for the loan of specimens; to Prof. J. Dorst, F. Roux, G. Jarry and Dr. A. Prigogine for information about habitat; and finally to C. W. Benson, who has commented on and translated the original manuscript.

References:

- Benson, C. W. 1946. Notes on the birds of southern Abyssinia. *Ibis* 88: 180-205.
 — 1950. The Brown Tit-babbler and the Blackcap in Nyasaland. *Bull. Brit. Orn. Cl.* 70: 35-37.
 Benson, C. W. & Benson, F. M. 1977. *The birds of Malawi*. Limbe, Malawi: D. W. K. Macpherson (Sponsor).
 Chapin, J. P. 1953. The birds of the Belgian Congo. Part 3. *Bull. Amer. Mus. Nat. Hist.* 75A.
 Cheesman, R. E. & Sclater, W. L. 1935. On a collection of birds from north western Abyssinia, Part III. *Ibis* 13 (5): 594-622.
 Dorst, J. & Roux, F. 1972. Esquisse écologique sur l'avifaune des monts du Bale, Ethiopie. *L'Oiseau et R.F.O.* 42: 203-240.
 Dowsett, R. J. & Prigogine, A. 1974. The avifauna of the Marungu highlands in J. J. Symoens (edit.): *Exploration hydrobiologique du bassin du lac Bangweolo et du Luapula*, Bruxelles, Vol. XIX: 1-67.
 Erlanger, C. F. von. 1907. Beiträge zur Vogelfauna Nordostafrika. V. *J. Orn.* 55: 1-58.
 Hall, B. P. & Moreau, R. E. 1970. *An Atlas of Speciation in African Passerine Birds*. London: Brit. Mus. (Nat. Hist.).
 Jackson, F. J. 1938. *The Birds of Kenya Colony and the Uganda Protectorate*. Vol. 2. London: Gurney & Jackson.
 Mackworth-Praed, C. W. & Grant, C. H. B. 1955. *Birds of Eastern and North Eastern Africa*. Vol. 2. London: Longmans.
 Prigogine, A. 1971. Les oiseaux de l'Itombwe et de son hinterland. *Ann. Mus. Roy. Afr. Centr. Tervuren* 185: 1-298.
 Prigogine, A. 1975. Contribution à l'étude de la distribution verticale des oiseaux orophiles. *Gerfaut* 64: 75-88.
 Schouteden, H. 1952. *Parisoma lugens* Prigoginei n. ssp. *Rev. Zool. Bot. Afr.* 46: 171-173.
 Urban, E. K. & Brown, L. H. 1971. *A Check-list of the Birds of Ethiopia*. Addis Ababa: Haile Sellassie I University Press.
 White, C. M. N. 1962. A check list of the Ethiopian Muscicapidae (Sylviinae). Part II. *Occ. Pap. Nat. Mus. S. Rhod.* 26B: 663-738.
Address: Laboratoire de Zoologie (Mammifères et Oiseaux), Muséum National d'Histoire Naturelle, 55 rue de Buffon, 75005 Paris.



Figure 2. Races of *Parisoma lugens*. Above downwards: one *jacksoni*, two *lugens*, two *griseiventris* (subsp. nov.), two *prigoginei*.